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## SOUND AND SENSE.

THAT, in the formation of language, men have been much influenced by a regard to the nature of the things and actions meant to be represented, is a fact of which every known speech gives proof. In our own language, for instance, who does not perceive in the sound of the words *thunder*, *boundless*, *terrible*, a something appropriate to the sublime ideas intended to be conveyed? In the word *crush*, we hear the very action implied. *Swoop*—"at one fell swoop"—seems as if it actually echoed the murderous action by which the whole family of the poor thane was fated to be destroyed. *Imp—elf*—how descriptive of the miniature beings to which we apply them! *Fairy*—how light and tripping, just like the fairy herself!—the word, no more than the thing, seems fit to bend the grass-blade, or shake the tear from the blue-eyed power. *Pea* is another of those words expressive of light diminutive objects: any man born without sight and touch, if such ever are, could tell what kind of thing a pea was, from the sound of the word alone. Of these picturesque words, sylvan and crystal are among our greatest favourites. *Sylvan*!—what visions of beautiful old sun-lit forests, with huntsmen and bugle-horns, arise at the sound! *Crystal*!—does not glitter like the very thing it stands for? Yet crystal is not so beautiful as its own adjective. *Crystalline*!—why, the whole mind is lightened up with its shine. And this superiority of crystalline over crystal is exactly as it should be, for crystal can only be but one comparatively small object, while crystalline may refer to a mass—to a world of crystals.

It will be found that natural objects have a larger proportion of expressive names amongst them than any other things. The eagle—what appropriate daring and sublimity; the dove—what softness; the linnet—what fluttering gentleness! The beauty of flowers is to be heard. "That which men call a rose" would be by any other name, or at least by many other names, smell as sweet. Suppose it called trumpety—it would be put down below the poppies immediately, and never cultivated more. *Lily*—what tall, cool, lady-like beauty have we here! *Violet*, *jessamine*, *hyacinth*, *anemone*, *geranium*!—beauties all of them to the ear as well as the eye. The names of the precious stones have also a beauty and magnificence above most common things. *Diamond—sapphire—emerald—ruby—agate—pearl—jasper—topaz—garnet—emerald*—what a carcanet of sparkling sounds! A necklace of the words, writ in fair capitals, would tell (almost) as well as the actual jewellery. The phrases connected with royalty are all of them princely. *Prince*, *king*, *sovereign*, *emperor*, *satrap*, *monarch*, paint the very ideas of prince, king, sovereign, and monarch. *Diadem* and *coronet* glitter with gold and precious stones, like the objects they represent. *Regal* brings the whole pomp of sovereignty before the eye. *Majesty*, let us deprive it of its formals as we may, in order to make "a jest" of it, the very word to paint the presence of a king with splendour, to our mind, describes the actual relative positions of the parties, and we can draw a line from the mouth of the speaker upwards to the fellow-being whom it is addressed. When *serene* is added to *peace*, a fine picture is presented. *Serene* is in itself a word to bring fine weather into the midst of a storm. A glowing calm is spread by it over sea and land. And, morally, nothing can be more expressive of majestic superiority and power, than serenity. It is unquestionably from this feeling that men first used the phrase "*vestra tranquillitas*" to princes—subsequently changed to "*your serene highness*." It is almost unnecessary to bring forward instances

of the fine things which are represented in English by fine words. Let us take any sublime passage of our poetry, and we shall hardly find a word which is inappropriate in sound. For example—

The cloud-capt towers, and gorgeous palaces,  
The solemn temples, the great globe itself,  
Yea, all which we inherit, shall dissolve,  
And, like the baseless fabric of a vision,  
Leave not a wreck behind.

The "gorgeous palaces"—"the solemn temples"—how admirably do these lofty sounds harmonise with the objects! The mind, as the magnificent word *palace* passes through it, becomes itself for the moment a palace. When the word *temple* comes, it is for the time a temple, as if the vast interior of the dome of St Paul's were expanding within it.

The words which convey homely ideas are, in fully as many instances, found to bear significant sounds. *Fiddlestick*, for instance, the most contemptible of things, and the most contemptible of words. *Fribble*—how like the being it is applied to! *Snacks*—how like the mean clandestine transaction implied! *Dumpling*—how little of the noble here, and how correspondent with the honest, simple, useful thing it means! *Skimble-skamble*, applied to weak broth or drink, appears as if no other word could be used to express the same idea. Many parts of the human figure have very homely names; *pate*, *poll*, *nob*, *canille*, for the head; *shanks* for the legs; *thrapple* for the windpipe (obsolete in England); *gob*, for the mouth, and so forth. These words, it is scarcely necessary to remark, are only appropriate when we think in a familiar manner of the things meant; if we were speaking of the limbs of the Apollo Belvidere, the application of the word *shanks* would never be thought of—did any one, in a disquisition on the mental functions of the brain, speak of its being seated in the *nob*, we should be shocked. Equally significant are some of the words referring to natural acts and functions. *Howl*, *wail*, *weep*, *scamper*, *trot*, *prattle*, *racket*, and *blatter* (this last, by the way, is Latin—*blatero*), are all of them highly descriptive.

What gives peculiar force to the theory of the connection of sound and sense, is the fact, that, where mean things are represented by words which do not sound meanly, those words may be employed as proper names, or as parts of other words, without conveying a mean impression. On a similar principle, mean things may be represented by words of grotesque sound in our own language, but not in another; and the words employed in that other language may be used as proper names, without appearing to us as at all ridiculous. *Booth* is paltry as the designation of a temporary shop; but, as a name, it is felt to be so elegant as to be frequently chosen for fictitious heroes. *Brydges*, nothing as a common word, is one of the best names. The same may be said of *Brewer* and *Taylor*. When a slight change has taken place in the adaptation of the word to its purpose as a proper name, the improvement is more marked. Steward, for instance, rises from kitchen to hall by the change of the *d* into *t*. *Durward*, apart from all recollection of its origin in door-ward, or door-keeper, acquires a tinge of rude fourteenth-century grandeur. *Hume*, which is one of the best old Scottish names, takes its origin from a holm in the neighbourhood of Hume Castle in Berwickshire; and it is unquestionably improved by the change in the spelling and pronunciation. So also *Plantagenet*, which was derived from the word signifying broom in French, so far from depreciating the dignity of the royal race which bore it, seems absolutely to give them an additional grace. Thus, also, *Nark*, who by himself is a plain man enough, becomes a gentleman with *vill*

tagged to him; equally so is *Rat*, with *cliffe*. The syllables *on* and *slow*, taken separately, are honest decent people; but they seem instinct with Norman blood when put together. *Bray* is by itself one of the most despicable of verbs; *brook* is nothing particular; see, however, what a fine antique chivalrous sound the two acquire as the designation of Lord Braybrooke. It seems to be only necessary, in order to produce respectable proper names, that the original words should not be of paltry sound. Nothing can reconcile the ear to Mr Butter, Miss Bairnsfather, Dr Peasgood, or that immortal firm of English plebeianisms, Messrs Mugs, Snugs, and Company.

The Romans, like ourselves, had many names of homely and whimsical meaning. Their *Planti*, *Pandi*, *Vari*, *Scauri*, and *Tuditi*, would have been with us, the *Splay-foots*, the *Bandy-legs*, the *In-knees*, the *Club-foots*, and the *Hammer-heads*. The illustrious *Fabii* derived their name from being excellent cultivators of beans. The scarcely less illustrious *Pisones* were so called in consequence of being excellent cultivators of peas. The name which *Cæsar* rendered so famous, arose from one of the family being born with a good head of hair. *Horace*'s cognomen of *Flaccus* signifies flap-eared. *Cincinnatus* and the curly *pow* of the Dainty Davie of Scottish song, are, strange to say, identical ideas. A young lady of the noble house of the Lappæ, would have now been a Miss Burr; *Strabo* would have been with us a Mr Squintum; *Publius Silius*, the proprietor, a Mr Snub-nose; and we can conceive *Marcus Tullius Cicero* introduced, in early life, into British society, as a young gentleman from the head of Peeblesshire—an amazingly clever fellow—of the name of Veitch. In the *Nigri* and the *Rufi*, they had our Blacks and Reids. And they had much worse, for the *Suilli*, the *Bubulci*, and the *Porci*, are said to have been respectively descended and denominated from a swine-herd, a cow-herd, and a hog-butcher. The wife of *Pætus* was full of heroic feeling; but who can with patience think of her as Mrs Pig's-eyes? So also the *Lentuli*, the *Serrani*, the *Cenestellæ*, and the *Leccæ*, carried, in the meaning of their names, a confession of the meanest and the most ridiculous origin.\* It is to be remarked, however, that in none of these cases is the sound of a mean character. The *Fabii*, *Pisones*, and *Serrani* of Rome, rank with the *Taylors*, *Brewers*, and *Booths* of England, which, though meaning humble things, sound tolerably well, and therefore form respectable designations.

In the word *palace*, which has already been touched upon, we have a curious instance of a word originally significant of a mean idea, advancing, by certain slight changes of pronunciation, to signify a noble one, and yet the sound continuing to be expressive from first

\* Various modern foreign nations have names of the same kind.

The Italians have their *Sforzas*, *Malatestas*, *Boccanigras*, *Porcinis*, *Giudices*, *Colonnas*, *Muratios*, *Medici*, and *Gozzis*; that is to say, the *Endeavourers*, the *Cluckheads*, the *Black-Muzzles*, the *Hogs*, the *Judges*, the *Pillars*, the *Masons*, the *Leeches*, and the *Chubby-chops*. The Spaniards have their *Almohadas*, *Girones*, *Utreras*, *Ursinas*, and *Zapatas*; signifying *Cushions*, *Gores*, *Mallocks*, *Beers*, and *Slippers*. The French name *Bouvier* is the same as *Bubulcus*, cow-keeper. It is common in England with a different termination, namely, *Bouverie*, which certainly sounds remarkably well, though it only signifies cow-house. There was once a French general of the name of *Valavoir*, which signifies *go and see*. It is related of him, that, taking a solitary walk one evening, he was questioned by a sentinel, and answered, "Va la voir." The soldier, taking the words in a literal sense, repeated the challenge: he was answered in the same manner; and, conceiving himself affronted, fired upon the general, who fell dead upon the spot.—*Smollett's Adventures of an Irishman*.

to last. Palace is from Palatium, the court of the kings and emperors of palmy Rome—

The imperial Palace, compass huge and high,  
The structure, skill of noblest architects,  
With gilded battlements, conspicuous far,  
Turrets and terraces, and glittering spires.

The Palatine was so named because it was built on the Palatine Hill. Palatine is supposed to have been originally Balatin, from the sound of the cattle, which, in the early days of Rome, were kept there. Thus, from the ludicrous lowing of a cow, we have, by various steps, one of the most beautiful words in our language—"the gorgeous Palaces!"

The relation between the sound and sense of certain words is to be ascribed to more than one cause. Many are evidently imitative representations of the things, movements, and acts which are meant to be expressed. Others, in which we only find a general relation, as between a beautiful thing and a beautiful word, a ridiculous thing and a ridiculous word, or a sublime idea and a sublime word, must be attributed to those faculties, native to every mind, which enable us to perceive and enjoy the beautiful, the ridiculous, and the sublime. Our sense of the beautiful can be exercised as easily upon the word diamond as upon the thing diamond. We can laugh as heartily at many of Cuddie Headrigg's droll expressions, as if we had seen the acts which they describe. There is also reason to conclude, that association exercises considerable influence in our judgment of sounds. To this we would attribute the non-effect of such a name as Brutus in calling up the idea it was originally intended, and which its sound is still calculated, to convey. To the force of this principle we would also attribute the anxiety manifested by many English families, by the addition of an *e*, or some other alteration or restoration of orthography, to give a French cast to their designations, hoping thus, perhaps, to pass for persons of Norman lineage. Our liability to be affected in this way is shown still more clearly in the instance of a word which signifies diverse and opposite things. Suppose the word *pan*, as here written, to occur to our minds, the images it awakens are of ragged tinkers and vagrants, while the vulgar sounds of "clout the cauldron" ring in fancy's ear. But let the same monosyllable present itself to our mental eye with a capital letter heading it, and how is the vision changed! *Pan!* most musical of names, as he who bore it was the most delightful of fabled divinities! He is before us even now, reposing in the shade of venerable trees, piping on his sylvan reed to the skipping fawns and nimble Hamadryads, while the shaggy oaks bow their ancient heads in complacent enjoyment of his music. Merope, the fair-haired and well-beloved, sits at his feet, the presiding goddess of the scene, while the shepherds, fearful to intrude on the sacred pleasures of their deity, gaze at a distance, charmed with the vision and the melody.

*Note.*—After the greater part of this article was written, the author recollected that the subject was treated in Blair's Lectures on Rhetoric and Belles Lettres, where, indeed, in the course of his early reading, he may have first picked up the idea. He finds that Blair is upon the whole favourable to the theory of a relation between sound and sense, and adds the following curious note of the opinions of Dr Wallis, who wrote upon English grammar in the reign of Charles II. Dr Wallis "represented it as a peculiar excellency of our tongue, that, beyond all others, it expressed the nature of the objects which it names, by employing sounds sharper, softer, weaker, stronger, more obscure, or more strident, according as the idea which is to be suggested requires. He gives various examples. Thus, words formed upon *st* always denote firmness and strength, analogous to the Latin *sto*; as, stand, stay, staff, stop, stout, steady, stake, stamp, stately, and so forth. Words beginning with *str*, intimate violent force and energy, analogous to the Greek *stronnumi*; as, strive, strength, strike, stripe, stress, struggle, stride, stretch, strip, &c. *Thr* implies forcible motion; as, throw, throb, thrust, through, threaten, thralldom. *Wr*, obliquity or distortion; as, wry, wrest, wreath, wrestle, wring, wrong, wrangle, wrath, wreck, &c. *Sw*, silent agitation, or lateral motion; as, sway, swing, swerve, sweep, swim. *Sl*, a gentle fall or less observable motion; as, slide, slip, sly, slit, slow, slack, sling. *Sp*, dissipation or expansion; as, spread, sprout, sprinkle, split, spill, spring. Terminations in *ash* indicate something acting nimbly and sharply; as, crash, gash, rash, flash, lash, alash. Terminations in *ush*, something acting more obtusely and dully; as, crush, brush, hush, gush,

blush. The learned author produces a great many more examples of the same kind, which seem to leave no doubt that the analogies of sound have had some influence on the formation of words. At the same time, in all speculations of this kind, there is so much room for fancy to operate, that they ought to be adopted with much caution in forming any general theory."

#### ERRORS IN NATURE.\*

CONSIDERING the vast multiplicity and complexity of Nature's operations in reference to the vegetable and animal world, nothing strikes us with so much admiration as the unerring manner in which all these divers operations are performed. Such is the beautiful and harmonious accuracy with which the great Creator has contrived all things, such the exactness preserved in the scheme of being by his ever-acting power, that we are led to the conclusion that an error never occurs unless through some accidental and unimportant cause. The occasional appearance of what philosophers term *lusus naturæ*, that is, animals with conformations in some respect different from those of the rest of their species, need therefore never excite surprise, or be viewed in a superstitious light. What the ignorant of all nations, and even the comparatively enlightened Greeks and Romans, looked upon as prophetic signs of national or individual good or bad fortune, modern inquirers into physiology have determined to be the simple result of certain natural causes, acted upon by accidental circumstances, in the common course of things.

The following physiological exposition may serve to clear up any lingering doubts upon this somewhat mysterious subject. It is not uncommon to see chickens produced with supernumerary heads, bodies, or limbs, and by tracing the progressive growth of these animals from their earliest rudiments, the cause of such monstrosities is pretty clearly ascertained. Upon opening, after death, the belly of a laying hen, a cluster of eggs, or rather the rudiments of eggs, may be observed, about twenty to a hundred or more, from the size of a pin's head to that of a boy's marble, according to the different stages of their growth. We shall take the liberty, for the sake of convenience, of terming this batch of rudimental eggs the "egg-cluster," but anatomists term it the *ovarium*, and the rudimental eggs themselves they term *ova*. It is necessary to observe here, that a rudimental egg has no shell nor white, which are acquired in an after stage of its progress, but consists wholly of yolk, on whose surface the germ of the future chick lies, both the yolk and the germ being wrapped round with a very thin membrane, or *streffan*, as it is termed in Scotland. When the rudimental egg, still attached to the egg-cluster, becomes larger and larger, and arrives at a certain size, either its own weight or some other efficient cause detaches it from the egg-cluster, and makes it fall into a sort of funnel leading into a pipe, which for plainness may be called the egg-pipe; anatomists term it *oviductus*. Here the yolk of the rudimental egg (hitherto imperfectly formed) puts on its mature appearance of a thick yellow fluid, while the rudimental chick or embryo, lying on the surface, at the point opposite to that by which it had been attached to the egg-cluster, is white and somewhat paste-like. The white or *albumen* of the egg now becomes diffused around the yolk, being secreted from the blood-vessels of the egg-pipe or *oviduct*, in the form of a thin glairy fluid, and it is prevented from mixing with the yolk and the embryo chick, by the thin membrane which surrounded them before they were detached from the egg-cluster, strengthened by a second and stronger membrane, which is formed around the first immediately after falling into the egg-pipe. It is proper to mention also, that this second membrane, enveloping the yolk and the germ of the chick, is thickest at the two ends, having what may be called bulgings, termed *chalazæ* by anatomists; and these bulgings of the second membrane pass quite through the white at the ends, and being thus as it were embedded in the white, they keep the enclosed yolk and germ somewhat in a fixed position, preventing them from rolling about within the egg when it is moved. The white of the egg being thus formed, a third membrane, or rather a double membrane, much stronger than either of the two first, is formed around it, becoming attached to the bulgings of the second membrane, and tends still more to keep all the parts in their relative positions. The egg, during the progress of these several formations, gradually advances about half way along the egg-pipe. It is still, however, destitute of shell, which begins to be formed, by a similar process to the formation of the shell of a snail, as soon as the outer layer of the third membrane has been completed. When the shell is fully formed, the egg continues to advance along the pipe, till the hen goes to her nest and lays it. These are some of the most

interesting and best ascertained facts with respect to the formation of the egg before its expulsion, and we required to state them thus minutely, for reasons which will presently appear.

The egg, which we have followed after its detachment from the egg-cluster, had only a single yolk and a single embryo chick; but it is far from uncommon to meet with eggs having double yolks, which may sometimes be even recognised externally, from the peculiarly long shape of the egg. Now, the formation of these double-yolked eggs may be explained in a similar manner to that which has already been attempted, the chief difference being in the time of detachment from the egg-cluster. In all the egg-clusters which we have inspected after the death of the mother, there has uniformly been one, and only one, considerably larger than all others—the one, of course, which would first become detached, and fall into the funnel of the egg-pipe. But it is easily conceivable (though we cannot vouch for the fact from actual observation) that after the largest is detached, the next largest may be at the same time, or soon after, detached likewise, and follow the first, so as to come into contact with it, or nearly so; or though the second do not become detached for a considerable time, the first may be detained in the pipe by some accidental cause not easily traced, till the second overtake it in its journey, before the white, or at least before the shell is formed. In the first case, of the two yolks becoming almost simultaneously detached from the egg-cluster, though brought into near contact, they cannot mingle their contents, in consequence of the enveloping membranes; but when the egg is opened, the two yolks will appear more like one large one, than distinctly separate, the membranes being so thin and transparent as not to be easily recognisable. In the second case, which, if it do not occur oftener, is more frequently observed, the yolk first detached having had time to be enveloped in a portion of the white before the arrival of the second yolk, when both came to be enveloped in another portion of white, and in the shell with its double lining membrane, the two yolks are plainly distinguishable on breaking the egg, either when raw or after it has been boiled.

It is necessary here to confess, that, while we can trace and explain the formation of the several parts of the egg, we are altogether ignorant of the circumstances which may cause two distinct yolks, one larger than the other, to drop simultaneously or nearly so from the egg-cluster, no less than of the causes which may retard the passage through the egg-pipe of the one first detached, till the other which has become detached at a later period arrive at the same place. One fact we do know, that some hens almost always lay double-yolked eggs, while others never or very rarely do so; and hence we are led to infer that the circumstance may be owing to some peculiar conformation of the parts connected with the process. Be this as it may, the bearing of these facts on the question of the production of monstrous chickens with more members than usual, is very obvious; but in order to understand this fully, we must further advert to what takes place in the process of hatching.

Every bird and quadruped is formed from blood, by a process which we can partly trace with as much distinctness as we have just traced the formation of the egg in the body of the hen. If a man break his leg, and the two ends of the bone be set opposite to each other, though at some little distance, and kept so by the usual surgical means of splints, the blood-vessels in the two broken ends of the bones will throw out calcareous matter, and will form a piece of new bone to fill up the interval; a process strictly analogous to that of the blood-vessels of the egg-pipe throwing out calcareous matter to form the egg-shell. Now, in the germ or embryo of the chick, already described as lying on the yolk within the enveloping membrane, there is a minute point—how or when formed we know not—containing the rudiments or germ of the heart and blood-vessels. The heat applied to this point from the sitting hen, in the process of hatching, causes it to enlarge (the common effect of heat); and it goes on enlarging and sending off fresh branches of blood-vessels from this central point, till the chick begins to assume its destined form, more and more blood being gradually produced (the yolk and white of the egg furnishing the materials), in proportion as the demand becomes greater for it to supply the substance of the bones, the flesh, and the fluids of the chick. We must, however, again confess our ignorance of the manner in which the same blood produces such different substances as bones, feathers, fat, and all the common constituents of a chick: we only know the fact, and are certain of it, that all these are solely produced from the blood.

Now, in the case of the eggs having double yolks, and of course double germs of chicks—for a germ accompanies every yolk when detached from the egg-cluster—there will be two rudimental blood-points, from which, in the process of hatching, new blood-vessels will begin to expand, and, consequently, two chicks will begin to be formed within the same egg. It is evidently a possible case that both chicks may be fully formed within the same egg; but it is, we believe, exceedingly rare to have two chicks hatched from the same egg. The only instance we ever heard of, was mentioned to us by the late Mr Bonnar, and in that case the twin chicks lived only for a very short time. A farmer's wife who had a hen that always laid eggs with double yolks, tried to con-

\* For this article, which gives a novel and apparently satisfactory explanation of a mysterious point in physiological science, we are indebted to an eminent naturalist.



time the breed, as the eggs were particularly large and marketable; but though she set the double-yolked eggs under her best sitting hens, she never obtained, as she informed us, the desired breed, though she often had monstrous chickens of the usual varieties already noticed. But why, it will be asked, seeing there are two yolks separated and kept distinct by their several enveloping membranes, should there not always be hatched from such double-yolked egg, two separate and distinct chicks, instead of one chicken with two heads, or with two heads and one body? Let us try to explain this. It has already been mentioned, that the second membrane of the yolk, formed after it is detached from the egg-cluster, passes through the white at each end, and becomes attached to the stronger double membrane lining the shell, for the apparent purpose of keeping the yolk from rolling about. Now, in a two-yolked egg, this apparatus must be necessarily more feeble, particularly in the middle space between the two yolks. In the rare case where it is strong enough to keep the two yolks distinct during the process of hatching, two distinct chicks will be produced, as observed by Mr Bonnar. In the more common instances of monstrosity, the process may be understood upon the following principle.

In order to get rid of a wart on the skin, or of any similar growth on an animal body, surgeons often employ pressure, such as tying a thick plate of lead over the part, which, by compressing the wart, at the same time narrows or completely obstructs the blood-vessels that bring blood from the heart to nourish it. By cutting off the supply of blood, indeed, any part of an animal body may be thus diminished and even annihilated; for, while the side of blood is diminished, other sets of vessels, termed by anatomists absorbents, are increased, if not in capacity, at least in activity, for the purpose of carrying away the portions no longer properly nourished. On this principle, if two of our fingers were bound so tightly together that blood-vessels in each of the touching surfaces were obstructed, the absorbents would gradually carry off the skin, and a complete union of the fingers might be effected, in a similar way as we have above explained to take place in the union of the two ends of a broken bone.

The application of these facts, for they are facts ascertained beyond all controversy, may be made with little difficulty to the case of an egg with two yolks and two chicks germs. It may be recollected that one of the yolks (the second) is always less than the other; and though the germs of the chicks may be equal in size—a point we are not certain of—the one attached to the largest yolk will, in the process of hatching, naturally outgrow the other, which has a more scanty supply of nourishment. The chick, of course, which grows most rapidly when a double-yolked egg is being hatched, will soon fill the largest space within the egg, and continue to gain ground, or the smaller will at length come to press upon it; but in proportion as it presses, it will be reciprocally pressed upon, in consequence of the equal resistance of the shell all round; and the two surfaces of the two chicks thus brought into contact will constitute a case precisely similar to the one above supposed, of the two human fingers bound together till they united. Were there no absorbents to carry off any of the parts, however, the two chicks, though united in some part of their bodies, would be perfectly formed, one remaining smaller than the other; but as the absorbents are stimulated to activity by the pressure, portions of one or of both are carried off by these vessels, and, mingling with the general mass of blood, go to augment the growth of the parts not subjected to pressure.

If we have succeeded in making these details intelligible, it will be quite unnecessary to apply them individually to the various cases of monstrosity exemplified in the hatching of eggs with double yolks, such as that of two chickens united back to back, and the like. Very similar principles will in the same way explain the monstrosities accidentally observed in calves, puppies, and other animals, as mentioned above. In the instance of calves, two at one calving are even more uncommon than double-yolked eggs. In one calf which we inspected, a second one had been all absorbed except the legs, which were attached to the back of the calf in question, as if the absorbed one had originally lain back to back. In the case of puppies, where it is usual for several to be produced at a birth, provision is of course made by nature for room to develop the usual number. When more than this number are accidentally present, the pressure thence induced may, and not uncommonly does, produce the monstrosities in question, by causing unions with the bodies or members of two embryos that happen to lie in contact.

From what has been detailed, it will be understood that most of the errors thus committed by nature are traceable in a great measure to accidental causes operating upon the earliest rudiments of the living creature. Besides the personal injuries which may in this manner lead to the production of animals differing in some respect in formation from the rest of their species, it is supposed that a diseased imagination, or violent mental emotion, must likewise have an effect equally detrimental. It is a well-known truth in natural history, that horns may be made to grow on the head of the cock. "They are placed there (says Cuvier) by a process, which consists in making an aperture in the crest of the cock, and introducing by this wound, and applying on the cranium, the spur of a pullet. The prodigious growth which takes place in this spur,

after the union it has formed with the bones of the head of the cock, proves incontestibly the similitude of animal-grafting with that of vegetables." At present, a very interesting specimen of a black pet lamb, with four horns, the one set more developed than the other, may be seen gambolling about in the western environs of Edinburgh.

## IZARAH,

A TALE OF THE MOORS IN SPAIN.

In the reign of Boabdil the Unlucky, their last monarch, the Moors were expelled from Spain by the arms of the Christians under Ferdinand and Isabella, the joint sovereigns of Castile and Arragon. Before this was accomplished, long wars were waged betwixt the cross and the crescent, which deluged in blood the province of Andalusia, often termed, from its great beauty and fertility, the Garden of Spain. Its capital was the city of Granada, a city of great wealth and magnificence, and the seat of the Moorish kings. As almost all the rest of the land had been reconquered by the Christians, it is probable that this single province could not have maintained so long and bloody a war, had not auxiliaries from many Mahometan countries ranged themselves under the banners of Boabdil. When the contest became more severe, and when Ferdinand and Isabella brought their army to the very gates of Granada, the Moorish king not only besought assistance, in the name of the prophet of Mecca, from his more immediate allies the Barbary princes, but sent messengers even to Arabia, entreating succours from the tented inhabitants of the desert. The bond of a common religion and a common ancestry made these petitions be listened to, and several of the Arab tribes went over to sustain the sinking cause of the crescent in Spain. The city of Granada had thus a powerful army for its defence, and all the forts and villages of the Moors of Andalusia were strongly garrisoned.

Among the tribes which thus left their tents and their flocks in the plains of Araby for the perils of an uncertain contest, was one called the tribe of Ben-Ami, which was headed in the expedition by a young and gallant chief. Perfect in all the warlike exercises of his country, and undaunted in battle, Selim was the idol of his youthful followers, while the greyheads of the tribe held him up as a model of all the peaceful virtues. His home and his arms had been blessed with the fairest maiden of the tribe on the day which brought the messengers of Boabdil to his threshold, and Selim had looked forward to many days of peaceful happiness with his bride. But the sons of Ben-Ami never shut their ears to the cries of their kindred, and their traditions told, that from their race had sprung the conquerors of Spain. To the aid of their beleaguered brethren, the young chief resolved to pass over with the flower of the tribe; and the only thought that contented with the love of glory in his bosom, was the thought of parting with the wife whose love was the jewel he had treasured up in his soul, even from infancy. Izarah was an orphan of his own blood, had been brought up under the same roof, and had been the playmate and companion of all his sports and exercises. She had learnt with him to career the steed, to bend the bow, and to hurl the javelin at the prowling denizens of the desert, when accompanying him in the hunt or on the march. Hence her frame, though light, was active as the antelope's; and the perils that terrified the maidens of the tribe, were slight in the eyes of Izarah. With tears did she represent this to her beloved Selim, when he communicated his resolve to her, and besought him to permit her, as hitherto, to be the sharer of his dangers. Her tears and entreaties won the consent of the chief; and when he stepped on the shores of Spain, the fairest flower of the race of Ben-Ami was by his side.

The brave strangers were received with gratitude and delight by Boabdil, who begged their chief to point out some way in which he might evince the favour he entertained for them. Burning with the desire of earning distinction for his followers and himself, Selim's only request was, to be allowed an opportunity of facing the enemies of Allah and the king. "The Christian dogs," said the king, "have retired for the present from the walls of Granada. They liked not so closely the ring of our scimitars upon their coats of mail, and have placed themselves beyond the reach of our sallies. The day may come, gallant chief, when we shall not wait for them in cities, but bound them out wherever they may have fled to hide themselves. But till more succour arrive from our brethren of Africa, strong walls must be our main defence, and sudden sallies our warfare. We have tidings that the brave Muley Hamet has made an excursion from the castle of Marchena which he commands, and cut to pieces at midnight the flower of the Christians who are besieging him. He has sent for help; and would to heaven, noble Selim, thou wert at hand with thy arm and counsel, for the unbelievers will be eager in their thirst for revenge!" The Arab chief earnestly entreated, as the king had expected, to be sent to the besieged fort with his followers, to which, after some show of reluctance on the ground of the difficulty of access to the castle, Boabdil gave his consent. Guides were ordered to attend the party, and messives for Muley Hamet put into the hands of Selim. Mounted on couriers that had been nourished on the

golden barley of Yemen, and were fleet as the dromedary, with scimitars of Damascus by their sides, and their javelins slung around their shoulders, the tribe of Ben-Ami paced slowly at daybreak through the princely streets of Granada. The chief, and Izarah, who was dressed and armed like her husband, rode at their head, and with them, as a guide, a chief of the warlike tribe of the Abencerrages, followed by two or three attendants. The castle of Marchena lay within one day's easy journey, and it was resolved to attempt a passage to it at midnight, through the midst of the Christian warriors.

No obstacle occurred to interrupt the journey, which was rendered agreeable to Selim by the conversation of the Abencerrage, who was a soldier of high reputation, and of a breeding conformable to his noble lineage. His advice was freely given to the Arab chief, on the mode of warfare pursued, and many other subjects; and so much was Selim won by his friendly demeanour as to confide in him the true character and station of Izarah, whom the other had regarded as a favourite follower or kinsman. The brow of the Abencerrage darkened at the information, and he cast on the lady a fixed and penetrating glance, in which, however, Selim imagined he read only anxiety and pity. "Hath she attendants of her own sex with her, my lord?" said the Moor to her husband. "But one, noble sir," was the reply. The Abencerrage was silent, nor did he revert to the subject throughout the rest of the journey. Night began to throw her shades around the party, and to hide from their view the vine-covered hills and the richly cultivated valleys, with their browsing sheep and clear streamlets. Their guide took ever and anon a short and hasty gallop before them, and returned at last with the information that they were not far distant from the tents of the Christians. He led the Arabs a considerable circuit around the plain, and then took Selim aside, to hold with him a parting conference. "You are aware, brave chief," said the Abencerrage, "that my services are required by my sovereign elsewhere, otherwise I should have been but too proud to have fought by your side in the encounter which you may very soon have with the foe. As our enemies will freely with the rifled vintage-cellars of Andalusia, my hope is, that you will pass almost unchallenged. Muley Hamet has been warned by a signal-beacon to expect your succours, and the trusty servants whom I leave with you, will lead you, the danger once past, up to the castle-gates. Farewell!" With these words the Abencerrage struck the sides of his fiery barb, and was speedily out of sight.

For an instant the Arab remained fixed to the spot, with the parting words of the Moor ringing in his ears; but the neighing chargers of his party roused him speedily to a recollection of his situation. He sprang to the side of Izarah, and after a short conference, arranged his followers in a close body, so as to encircle the lady and her attendant. With the chief and the Abencerrage's servants in front, the party then moved onwards at a cautious pace, and soon found themselves within a few steps of the besieging army's encampment. Loud shouts and peals of clamorous laughter, with the confused sounds of music and songs, showed to the Arab chief that the Christians were buried in security and enjoyment. An open space in front of them was the passage by which the party were to attain the castle; and though the ground was scarcely distinguishable, yet the absence of the lights, which twinkled abundantly elsewhere, showed that there were no tents placed there.

Giving the word to advance, Selim led the way at a smart gallop. Fortunately the ground was slightly marshy, and, indeed, had been left unoccupied by the Christians on that account. In a short time they perceived the lights of the castle on a considerable eminence before them, but the camp was better guarded on the side of the fort than towards the open country, and loud challenges were issued from both sides of them. Selim commanded his followers to keep close together in the train of the guides, and the Arabs proceeded rapidly on their course. A straggling shot was directed towards them, but without any effect. At the foot of the eminence, which was crowned by the castle, they were challenged a second time; but Selim speedily discovered this to be a band of Muley Hamet's, lying in wait to protect them in their ascent of the rock. This, however, appeared to be a matter of no difficulty, as all sounds of excitement had ceased behind them, and nothing was visible but the glimmering lights of the tented plain.

The castle of Marchena had been a country habitation of the kings of Granada, and, though beginning to show marks of the rude touch of war, it still contained many apartments decorated with the lavish magnificence that distinguished the Moors of Spain. The governor, Muley Hamet, was a handsome warrior, of middle stature, and in the prime of life, with a countenance that would have been highly prepossessing, but for the sinister effects of a deep scar on the cheek. His courtesy towards the Arab chief was extreme, and he welcomed his assistance with the frankness of a soldier. When made aware by Selim of the character and condition of Izarah, he redoubled his attentions, and placed the most retired apartments of the fort at her service. He even offered to procure her attendants from among the families of his followers; but the Lady Izarah, after expressing her thanks for these courtesies, declined, as unnecessary, any other attendance than that of her faithful Mamri.

The Christian besieging party were commanded by a valiant knight, Don Juan de Almara, who was as much noted for his gentleness in peace as for his bravery in the field. At the period of Muley Hamet's midnight salley and of Selim's entrance into the castle, Don Juan had been absent from the camp. While he punished those whose laxity had permitted the latter occurrence, he declared that he would take ample revenge for the advantage gained over his troops by the Moorish governor. All attempts on the castle itself had been frustrated, by the strength of its situation and defences; but the besieged were by no means averse to sallies and skirmishing parties, in which the fleetness and well-managed docility of their Barbary coursers gave them frequently the advantage. The followers of the gallant Selim speedily distinguished themselves in this light warfare, and the Arab leader measured swords more than once with the Christian commander. The soul of the desert-born hero was of as high and elevated a cast as that of the knight nurtured in the lap of chivalry, and trained in the path of honour and virtue. The Christian admired the prowess and conduct of the Arab chief, and sought such interchange of courtesy with him as their situations permitted. Ransoms and exchanges of prisoners passed between them—an intercourse which had never been admitted by Muley Hamet. But Selim was in some measure an independent leader, and the governor knew well that the amenities of war, which the Moors followed equally with the Christians, sanctioned such proceedings between foes.

The first scowl which Selim observed on the brow of Muley was called up by the mention of these civilities, and he shuddered at the diabolical expression it imparted to the whole countenance. But it speedily passed away, and the friendly language that ensued left a doubt whether such a fiendish look had ever an existence. The sole command of the troops of the castle shortly after devolved upon Selim, for the governor received in a slight skirmish a wound which disabled him from taking the field. The conduct and courage of Selim now became more and more conspicuous, and his gentleness and justice won him the love of all who fought under him. But a source of disquietude arose in his bosom, which threw a damp over his success. On his return from the field, he found Izarah on several occasions in tears, and all his entreaties could not prevail upon her to discover the cause. Her attendant, though often weeping in company with her lady, either from ignorance or fidelity, was equally deaf to his inquiries. This was an arrow which rankled in the bosom of the chief, even in the midst of daily action, till one evening a billet was slipped into his hand, containing these words: "Muley Hamet is not kept from the field by his wound alone."

A thought flashed through the brain of Selim—could the governor dare to insult his beloved Izarah? He rushed to the apartment of his wife, and found her again with all the traces of recent weeping. "Tell me," he said, "Izarah, beloved, by the companionship of our infancy, by the life we have shared together, what grief is it that preys upon your bosom, which that of your husband must not be a partaker of? Doth thy heart long to drink once more of the welling fount beside our far off home, and to watch the patient camels grazing on the green pastures around it? Is it this, my own Izarah, fair flower of the desert, that makes thee unhappy?" "No, Selim," said his weeping wife; "where thou art, there is my home, and there are all my desires. But can I be happy, when, every hour that thou art from me, thy heart is the butt of a thousand weapons, thy life exposed to perpetual dangers, which thy bravery leads thee to court, not to avoid. Nay, more!"—"Cease, Izarah, upon this theme. The glory of thy husband was wont to be a source of joy and pride; and oft have my ears heard thee declare, that, if Selim fell in battle for the cause of Allah and his prophet, no tear from thee should cry out against the decree of heaven, or bewail so noble a death. Doth the cause of Allah not now demand the strong arm and the bold heart? This, Izarah, this is not the cause. Look on this." He held before her the scroll that had been put into his hands, and gazed attentively on her countenance. The only answer of his wife was a renewal of her tears. "My conjecture, then, is just. But think not, Izarah," said he, as he observed the flush that spread over her brow, "think not that for an instant I have wronged thy purity. But," and his look darkened as he spoke, "an insult has been offered, that blood must wash away. Muley Hamet has dared to touch!"—"Touch, Selim! Thinkest thou that the arm which thy love taught to wield a weapon against the wild beast of the desert, would permit the polluted touch of a monster worse than they. No, beloved; there is still in this breast a portion of the brave spirit, caught, in days that are gone, from thine. But it is true that he has dared to offer—his base love. Stay, Selim! stay, if thou lovest Izarah—and listen." She caught hold anxiously of the chief's arm, which had fiercely grasped his dagger. "Hear me, Selim!—he has dared to insult, but he found also a way to close my lips. Thou art in his power—in the field and in this accursed place. At a word from the tyrant's mouth, his creatures are ready to stab thee, in a spot where thy open foes will never plant a wound; and poison may be thy doom here. No fears for myself, or for thee with thy fair foes, have caused these tears. I thought myself of stouter heart than woman is wont to bear; but this, the terror of treachery to thee, has

shown me that I am but a woman. Seek other service from the king for thy Arabs, for there is no other method of safety to thee, beloved, or peace to Izarah." "There is," said Selim; "his life must answer for the insult he has offered." The chief strode in angry thought for some time backwards and forwards through the chamber, with his wife hanging upon him, and entreating him to recollect how much the force of the governor outnumbered his own followers. Stopping at length, Selim embraced her fondly, and besought her to be composed. "I will be prudent," said he, "as I will be sure, in my revenge. The Christian knight prepares for a hot assault to-morrow, and Muley Hamet takes the field also, as I have learnt. If his wound be a mockery, he is brave, and I shall dare him to defend his treachery in the face of the army in the open field. Peace, Izarah—no more on a theme, which it galls me to leave unavenged for an hour."

But this conversation was heard by more than those who took part in it, and the treacherous governor, when he received it from his spy, plotted his measures accordingly. He conceived, and justly, that Selim would not seek his satisfaction till the service of the day should be accomplished; besides, he resolved not to descend to the plain till the contending parties were nearly engaged. Selim, he calculated, would, as usual in his own absence, put himself at the head of his followers, leaving the Arabs, on whom he could more depend, under the command of his kinsman Abdallah. The traitor prepared his confidential creatures for the scheme he meditated, and looked forward with delight to the probability of Izarah being deprived of her husband.

Every thing fell out as the traitor had anticipated. Selim, unconscious of danger, arranged the soldiers in the manner best calculated for success, and took the command of Muley's troops. At the very first onset with the enemy, the Arab chief was deserted in the midst of the enemy, wounded, and taken captive. At the close of the engagement, which terminated favourably for the Christians, who drove their opponents with loss to the very gates of Marchena, the prisoner was led to the tent of Don Juan de Almara, who received him with the utmost courtesy, and expressed civilly his regret for the misfortune of so gallant an enemy. He led the Arab to his own tent, and assured him of every comfort, and even of comparative freedom, while he remained a prisoner. But the thoughts of Selim were not fixed on his own condition; he was boiling with indignation at the perfidy of which he had been the victim, and his bosom was racked with anguish at the thought of Izarah's situation, in the power of the ruffian Muley, while his kinsman Abdallah and his faithful band were totally unaware of her danger. The gallant knight, seeing his dejected appearance, endeavoured to console him further, by speaking of ransom, saying, that although he himself had it not in his power to negotiate for the liberation of one so high in rank and reputation, he would lend his full aid for that purpose with his sovereign Ferdinand. A speedy ransom was the only prospect of comfort to the Arab; and after a repast, to which Don Juan pressed him ineffectually to do honour, Selim resolved to inform the knight of the circumstances in which Izarah was placed. His captor listened to the tale with the horror that became a true son of chivalry; and so strongly was his sympathy excited, that he determined to post himself to his monarch's feet, to beg either for a ransom, or a temporary liberation. The young chief thanked him almost with tears, and willingly pledged himself to remain a captive at large till Don Juan's return.

The Arab warriors knew not of their chief's capture till the engagement was nearly ended. The grief and rage of all knew no bounds; but that of Abdallah was most severe, and on him devolved the trying task of communicating the calamity to Izarah. The sorrow of the adoring wife cannot be painted. For many long hours she sat like sculptured marble, pale, dumb, and motionless; and when spoken to by her faithful attendant, she gave only a vacant look in reply. But at last her feelings appeared to undergo some change, and she paced her apartment with clenched hands, muttering as if in the act of meditating some purpose. She then took from the wall a scymitar of her husband's, and, after gazing upon and swaying it in her hand with the ease of a master of the weapon, became perfectly calm, and commanded Mamri to bring Abdallah before her. They had a long interview, from which her kinsman departed with a troubled and anxious brow. This the Arabs attributed to sympathy with their lady's sorrow; a feeling in which even Muley Hamet for the time feigned to share deeply.

On the second day after his capture, Selim sat alone in the tent of the Christian leader, yearning for the good knight's return, and tortured with the image of Izarah in the grasp of the ruffian Muley. The sound of a Moorish trumpet startled him from his dejected reverie, and he hastened to inquire the cause of the sound. In loud terms, the Christian lieutenant bewailed the absence of his chief, who would lose a wreath of glory which he had long wished for. "The governor of Marchena," said the attendant, "is on the plain, and challenges my master to single combat." Almost choked with eagerness, Selim entreated and besought that arms should be given to him, to punish the audacious challenger. "He is my mortal foe," exclaimed the chief, "and heaven has presented this opportunity to me, to save the honour of my wife, and to punish

her base insult!" Aware of the captive's renown in arms, and satisfied with his hurried assurances of his enmity to Muley, the generous Christian officer was persuaded to array him with the armour of his superior, and mount him on the war-steed. Overjoyed with his good fortune, Selim rode rapidly to the open plain.

The governor of Marchena sat on horseback a considerable way in advance of a small party which attended him. On the approach of the Arab, crying out the name of Muley Hamet, the other advanced, calling the name of Don Juan, and, as if animated by equal hostility, the combatants spurred their steeds against each other, without further parley. After the shock of this encounter, which did not appear greatly to injure either of them, the Moor seemed desirous to make use of the superior docility and fleetness of his barb, and wheeled round his opponent in a way which the more heavily mounted Selim could not imitate, giving and receiving strokes at every turn. But this did not long continue. The Moor's adversary, determined to shorten the combat, grasped with the left hand the bridle of the barb; then holding the two animals almost locked by the head, the warriors struck at each other with implacable fury. Selim was induced to take this course, because he felt that the wound which he received at his capture, had broken out, and would soon weaken him. The heavy blows interchanged by them told first on the Moor, and at last he dropped, covered with wounds, from his saddle. Selim sprang to the ground, and placed his sword at the other's throat. "Know, base wretch," cried he, "that it is Selim! Selim! who thus revenges thy perfidy, and thy insults to his wife!" A cry from the lips of his prostrate enemy made Selim undo the mask from his face, and the countenance of Izarah met the gaze of her husband! "I came to save thee, Selim—to win a noble prisoner for a prisoner," said she faintly. "But I die happy, beloved of my heart, since I fall by thy hand!" Staggering from loss of blood, and faint with horror, Selim had sunk on his knees by her side. "Stay, Izarah! light of my eyes, I am following thee!" "Kiss me, Selim!" said in feeble accents the expiring wife. He bowed his head for that purpose, and never raised it again! When Abdallah and his small band reached the spot, the husband and the wife were already fixed in death.

The noble and loving heart of Izarah could form no other plan of liberating her chief, but by taking captive a foeman of equal rank; and after the scheme had been once formed in her mind, all the entreaties of Abdallah could not divert the devoted wife from her purpose. She commanded her kinsman to provide her with armour, and to attend her with a few trusty followers. How the enterprise sped, the reader has seen. And thus perished they by each other's hand, in the sunny fields of Spain, whose youth had passed so happily beside the welling fount in the tented plains of Araby.

The unfortunate pair were revenged by the hand of Don Juan de Almara, who slew, in single fight, the governor of Marchena, near the spot where Selim and his Izarah perished. In a brief space thereafter, the whole of the Moorish forces were expelled from the Spanish territory.

#### FRENCH SALT SMUGGLERS.

FORTUNATELY, the dangerous and demoralising pursuits of the smuggler are now little known among us, or are only heard of by tradition. In former and more lawless times, contraband traffic was carried on to a considerable extent on the more remote parts of our coasts, as well as on the borders of England and Scotland; but all sinks into insignificance in comparison with what is exhibited by the annals of France during the reigns of Louis XV. and his successor, or the principal part of last century. The accounts given of the smuggling in France at that time are at once ludicrous and dismal. The whole nation smuggled, from the peasant to the prince; and the plans and shifts which were resorted to, to avoid detection, were of the most ingenious description. The result of this flagitious system was suffering and demoralisation to an incalculable amount. The following is the brief account given in the *Encyclopædia Americana*, of the smuggling which prevailed in the salt trade alone:—"The duties imposed on salt, called the *gabelle*, were farmed by a company of forty-four farmers-general, who for some time paid sixty millions of livres (a livre is 10d. sterling) to government. The price of a hundred-weight of salt, which, if left free of duty, might have been bought for a livre and a half, or fifteen pence, and in some provinces for less, was raised, in some parts of the country, by the *gabelle*, to the monstrous price of sixty-two livres, that is, two pounds eleven shillings and eightpence sterling. It is hardly necessary to observe how much the agricultural classes must have suffered by the artificial scarcity of so indispensable an article; but the worst effect of the tax was that which it had on the national morality, and the relation between the nation and the government. This tax had distorted the ancient provincial constitution of France. France was divided, in respect to the salt trade, into six classes of districts, which were very confusedly intermingled:—1. *Provinces franches*, those districts in which the salt trade had remained free, and salt was therefore to be had at its real value. These were chiefly those provinces in which sea-salt was manufactured—Brittany, part of



Poitou, Navarre, in which a hundred-weight cost 14 to 2 livres, the French Netherlands, where it cost 7 to 8 livres. 2. The provinces *rédimées*, which had purchased exemption from the salt-tax under Henry II. for the sum of 1,700,000 livres. They obtained their salt from the manufactories of sea-salt of Saintonge and Poitou, which, after paying the customs, cost from 6 to 10 livres per cwt. Guienne, Poitou, Auvergne, and much of the south of France in general, belonged to this class. 3. Lower Normandy manufactured sea-salt, of which, in earlier times, she gave a quarter to the king. This quarter was afterwards commuted into a tax in money, by which the price of salt was raised from 13 to 15 livres. 4. The *pays de salines*, which were supplied from salt mines, Alsace, Franche-Comté, Lorraine, and the three bishoprics (Metz, Toul, and Verdun), obtained salt for 12, 15, 27, and 36 livres. 5. The *pays de petites gabelles* (we pass over some of the smaller distinctions) consisted of Provence, Languedoc, Dauphiné, Lyonnais; in short, a great part of the south of France. They obtained their salt from the Mediterranean sea, for from 22 to 40 livres per cwt. 6. The *pays de grandes gabelles*, or the central provinces of northern France, Iale-de-France, Normandy, Picardy, Champagne, Orleanais, Touraine, about one-third of France, paid the highest taxes, or two-thirds of the whole salt-tax (about 40,000,000 was drawn from them.) The price of salt was in these countries from 54 to 62 livres. The most important consequence of this establishment was, that the people were constantly at war with the government, and that the smuggling of salt became the general occupation of vagrants and criminals. By smuggling a cwt. of salt over the frontiers of Brittany to Maine or Anjou, twelve dollars could be earned in an hour. Even the carrying a few pounds in the pocket was equal to a day's wages. The salt-trade required an army of officers, and, as the smugglers were armed, soldiers were also necessary. A body of bold and desperate men was therefore constantly on foot, and the courts were continually occupied with the trials of smugglers. There were generally about 1800 of them in the prisons, and it was considered a remarkable year if more than 300 were not sentenced to the galleys. However severe the punishment might be, it could not deter men from engaging in this business. The animal creation was even pressed into the service. Dogs were trained to carry small packets of salt across the frontiers of the provinces, performing their journeys during night. To counteract these dog-smugglers, other dogs in the employment of the officers and soldiers were brought into use; and the encounters betwixt the two classes of animals were frequently as sanguinary as those betwixt their respective masters. The consequences of this state of affairs—among other causes of national misfortune—every one knows to have been lamentable, and need not be described.

#### IMPORTANT SUGGESTION TO AUTHORS AND PUBLISHERS.

AN old Edinburgh tradesman of the last century, who had stitched the backs and skinned over the outsides of many thousands of volumes, used to say, with the air of a man whose experience had entitled to speak, "Ony body can write a beuk: the binding's the thing." The binding, we acknowledge, continues to be paramount to the writing; but now-a-days there is something still more important than the binding: this is the *puffing*. To any one who is accustomed to read modern publications, and also to glance his eye over the critical periodicals, newspapers, and so forth, it must be apparent, that, in nine out of ten cases, the ingenuity employed in composing the book is not worthy of being mentioned in the same day with the ingenuity employed in selling it. For weeks before the appearance of the work, and months after it has appeared, the brains of the publisher are perpetually upon the rack in contriving trap-paragraphs, obtaining panegyric critiques, and distributing advertisements, each of which has to be garnished with extracts ingeniously culled from those said critiques upon which he had expended so much pains before. And the author, too—few it is of this tribe who are disposed to say, with Ovid, "Sine me, liber"—Without me, O book, thou goest into the city. Any author who would now be contented with only writing his book, and then letting it go into the world to sink or swim as fortune might direct, could never hope to make another bargain in the Row. No—after exercising his smaller wits in the tasks of composition and correction of the press, he must join his publisher in that desperate exertion of the higher intellectual powers which is required in the great and important business of causing his book to sell. So far from letting it go without him, he must, as the saying is, be constantly on the top of it.

Now it happens that all the higher departments of the business of literature can only be carried on at a great expense. Favourable critical notices cannot in

many instances be obtained without orders for advertisements. Advertisements, again, cost high. To centinel every newspaper in the land with a little bit of blarney insinuating the merits of the work, as it were, without intending it, comes to "an infinite thing." Copyright—pshaw! what is the price of copyright, in comparison with the advertising? After all, do as one will, many books are not sold to any great extent, while not a few can hardly be said to be ever published, although brought into existence; so that not only the ingenuity employed in compiling them, but also the much greater ingenuity and expense which were thrown away in endeavouring to make them sell, come all to nothing. As much good capital must thus be annually lost, it becomes a matter worthy of serious consideration, if there be any other, surer, and less expensive way, of promoting the success of new publications. We propose to ourselves the honour of suggesting such a method.

To us it has always appeared that a great proportion of the authors and publishers of the present age are under a delusion similar to that which beset an ancient practitioner of the law, who, towards the close of the last century, dwelt in the pleasant town of Jedburgh, and used to be described by Sir Walter Scott, who knew him well, as "a Bailie Macwheele sort of a body." Old John never could suppose that, in any case which he was carrying on before the sheriff-court, his client could be in the wrong; nor did he ever take it upon him to imagine that his honour the sheriff, or the sheriff-substitute, possessed such a thing as a conscience. Accordingly, whenever he gained a case, he always looked upon it as a mark of personal favour on the part of the judge, and was grateful accordingly; and, on the other hand, when he happened to be unsuccessful, he would set himself to recollect in what manner he could lately have offended his honour, or what personal reason of preference his honour could have had for either the client or the agent on the opposite side. At the dismissal of the court, he has been known to say to a friend in passing out, "Weel, I canna mak him out the day ava;—what can hae angered him? it was only last week his wife sent to borrow from my wife her twa washing tubs;—we shook hands yesterday on the street: he's clean gyte—he's clean gyte!" Now, the corresponding mistake of modern authors and publishers seems to be, that they presume success to be attainable only by *favour*. Suppose that, instead of all these laborious efforts to conciliate and over-persuade the public, they were to adopt the simple expedient of making their books *positively worthy of being bought*, it appears to us that the end would be much more cheaply and certainly gained. It would be something parallel to John making sure that he and his client were always in the right; in which case, we are very sure, the light of his honour's countenance would have invariably shone upon him.

Our plan, then, is to make books self-attractive. And this, we conceive, depends upon three great principles. In the first place, the book must possess those characteristics of ability, utility, pleasantness, and so forth, which will cause mankind to wish to possess and read it. It must be qualified to instruct or entertain at least up to the average of books of the same kind, and must not display more than the average amount of faults and defects. This is Principle Number One. Principle Number Two is an alternative of the former. Let the book refer to some subject upon which mankind wish to be informed, and which will be in itself a sufficient motive to cause the purchase of the book. Principle Number Three is, that the price must not be too high in proportion to the character of the book, the price of other books of the same kind, and the pecuniary means of the class to which it chiefly appeals. Let these three principles, positive and negative, be attended to, and we shall be much surprised if the results be not satisfactory.

The plan, we must acknowledge, is somewhat revolutionary—seeing it implies that the task of writing should be elevated from the third rank in the business of producing books to the first, while the puffing, and the binding or embellishing, respectively take the second and third, or altogether fall into abeyance. But, when we consider how much would be saved by it, and that, after all, as the writing of a book was formerly considered as the most important department, the change would rather be a restoration than a reform, repugnance may in a great measure cease. For our own part, we are not prepossessed in favour of our own plan; and if any one can suggest a better means of selling books than by giving them genuine merit, we

shall be glad to take it into consideration, and if we should see reason to approve of it, we promise that it shall not want in us a zealous advocacy and a practical exemplification.

#### BIOGRAPHIC SKETCHES.

##### SIR RICHARD STEELE.

SIR RICHARD STEELE, so justly celebrated as the originator of elegant periodical literature in England, was the son of an Irish counsellor-at-law, of English extraction, and was born in Dublin about the year 1675. His father having died while he was yet a child, he was placed, by the favour of the Duke of Ormond, in the Charterhouse School in London, where he formed a friendship with Joseph Addison, which was destined to lead to some important results in English literary history. In Merton-College, Oxford, to which he was sent in 1692, he first gave token of a talent for polite literature; but it was to no learned profession that Steele was inclined. He had contracted an enthusiastic passion for the life of a soldier, and, being thwarted in his wishes by his friends, who might have otherwise procured him a commission, he enlisted as a private trooper in the horse-guards. The first consequence of this step was his being erased from the will of a gentleman in the county of Wexford, who had designed to leave him an estate. Thus early did Steele evince himself the creature of impulse.

The humility of this situation did not prevent his education, talents, and manners, from recommending him to the officers of the regiment, who in a short time obtained for him an ensigncy, in order, perhaps, that they might be able to indulge more freely in his society, which is described as having been extremely agreeable. In the company of his new associates, he gave himself up to a life of wild and intemperate pleasures, such as we see delineated in the plays of the period. But in the midst of his extravagance, he was not without moments of reflection, in which principle contended powerfully with passion. Under the influence of early impressions of piety, he employed some intervals of dissipation in writing a small tract entitled the *Christian Hero*, in which he theoretically endeavoured to reconcile the duties of military life with the duties of religion: this he published in 1701, in the hope that, having committed himself so far to such a hypothesis, he should be obliged, by a regard to consistency, to exemplify it in his own conduct. But Steele miscalculated his strength, and, in his subsequent indulgences, only gave occasion for irreverent contrasts being drawn by his companions between his professions and his practice. It has been well remarked that he did not adopt the best expedient which could have been suggested in his case for self-reformation. It was not in the theory of well-doing that he was deficient; he required no additional light upon the principles of virtue. His weakness consisted in the want of will to abide by principle, and to resist temptation; and his most advisable course was therefore to leave the army, and seek a line of life in which innocence could be more easily maintained.

Before the appearance of the *Christian Hero*, Steele had become private secretary to Lord Cutts, who procured for him a commission as captain in Lucas's regiment of Fusiliers. In the same year with the publication of the book, he produced a successful comedy, entitled the *Funeral*, or *Grief à la Mode*, the design of which was to ridicule the extravagant professions of the undertakers, and to expose the chicanery of the lawyers. The play, which had a moral object, and was a great improvement in point of morality upon the school of Wycherly and Congreve, obtained the approbation of King William, who designed to confer upon its author some substantial mark of kindness, but did not live to fulfil his intention. Steele was proud, in after life, to say that his name was inscribed on the last table-book ever worn by this monarch.

Soon after the accession of Queen Anne, having declared for Whig principles in politics, he was favoured, on the recommendation of Addison, with the government post of gazette-writer, which required little of either his time or abilities, but bore a salary of about two hundred and fifty pounds, so that he seems to have been enabled to quit the army, and trust for further income to literary exertion. In 1703, he produced his comedy of the *Tender Husband*, which met with distinguished success, partly, it would appear, in consequence of the improving hand of Addison. Another comedy produced in the subsequent year, under the title of the *Lying Lover*, was less fortunate. As a dramatist, Steele has much real merit. He was the

first to attempt any serious improvement upon the dissolute stage of the seventeenth century. He introduces amiable characters in situations which engage the finest feelings, and makes them acquit themselves in such a manner as to recommend the virtues which they profess. Humour, tenderness, and an elevated morality, are the predominating characteristics of his dramatic productions.

After an interval of five years, during which little is known of the literary employments of Steele, he projected the publication of a periodical paper, in which he should combine, with the usual intelligence of a newspaper, remarks on literature and the manners of the passing age. Small periodical papers for the discussion of politics had previously existed in great numbers, and one by Defoe had combined something like comments upon manners in the shape of the proceedings of an imaginary Scandal Club. But the *Tatler* of Steele was the first which gave a prominent and regular place to articles expressly designed for the reformation of society. At the time when he commenced his undertaking, the dissolute manners introduced by Charles II. were still sanctioned by a large portion of the more elevated classes; much coarseness and licentiousness prevailed, and literature had not as yet become even a luxury to any large portion of the community. An opportunity accordingly existed for issuing, in cheap and frequent publications, a work which should undertake a species of censorship over metropolitan manners, and be qualified by its popular character, and more especially by the piquant accompaniment of politics, for finding its way into the hands of an extensive circle of readers. The dramatic genius of Steele furnished for this design a fictitious being to serve as a supposed editor, to whom he gave the name of Isaac Bickerstaff, which Swift had recently rendered conspicuous by affixing it to a satirical pamphlet.\* The first number, which appeared on Tuesday, April 12, 1709, acquainted the public that the work should be published thrice a-week, each paper containing notices and reflections on manners, poetry, learning, and foreign and domestic news. Such was the design of the first of those periodical papers which have since borne so eminent a rank in British literature. It was in reality a penny magazine, suited to the taste of that age, and embracing some of the details of a newspaper.

Steele began this undertaking under a strict incognito, even his friend Addison being unacquainted with his concern in it. Before many numbers had been published, Addison discovered the secret, and then began to contribute his assistance. The superior character of the writings of this person is well known. It never excited the least envy in the breast of Steele, who, on the contrary, sportively compared himself to a distressed prince who, having called in a powerful neighbour to his aid, finds himself undone by his auxiliary. The *Tatler*, after extending to two hundred and seventy-one numbers, was discontinued in January 1711, in consequence, as Steele informs us, of his secret becoming public, and the awkwardness which attended the character of a recognised censor. The success of the *Tatler* was so great, that, when the work was reprinted, it was sold at a guinea a volume. In March 1711, with a confidence in his resources for which there is scarcely a parallel in literary history, Steele commenced a new and similar undertaking, under the name of the *Spectator*, which was to be published daily, and to contain no admixture of politics. From the commencement of this work he enjoyed the valuable assistance of Addison, and in the course of it he obtained a few papers from other writers, of whom the chief was Thomas Tickall, the poet. Here, as well as in the *Tatler*, he assumed a fictitious editorial character, but without any particular name, and with few features of distinction besides celerity, taciturnity, and a short face. The greater part of the light and humorous sketches are by Steele; while Addison contributed most of the articles in which there is any grave reflection or elevated feeling. In the course of the work, several fictitious persons were introduced as friends of the supposed editor, partly for amusement, and partly for the purpose of quoting them on occasions where their opinions might be supposed appropriate. Thus, a country gentleman was described under the name of Sir Roger de Coverley, to whom reference was made when matters connected with rural affairs were in question. A Captain Sentry stood up for the army; Will Honeycomb gave law on all things concerning the gay world; and Sir Andrew Freeport represented the commercial interest. Of these characters, Sir Roger was by far the most happily delineated: it is understood that he was entirely a being of Addison's imagination, and certainly, in the whole round of English fiction, there is no character depicted with more masterly strokes of humour and tenderness. The *Spectator*, which extended to six hundred and thirty-five numbers, or eight volumes, is not only much superior to the *Tatler*, but stands at the head of all the works of the same kind that have since been produced, and, as a miscellany of polite literature, is not surpassed by any book whatever. All that regards the smaller morals and decencies of life, elegance or justness of taste, and the improvement of domestic society, is touched upon

in this paper with the happiest combination of seriousness and ridicule. The *Spectator* appeared every morning in the shape of a single leaf, and was received at the breakfast-tables of most persons of taste then living in the metropolis. It has since passed through innumerable editions.

During the year 1713, while the publication of the *Spectator* was temporarily suspended, Steele, with the same assistance, published the *Guardian*, which was also issued daily, and extended to one hundred and seventy-five numbers, or two volumes. It ranks in merit between the *Tatler* and *Spectator*. His literary reputation had meanwhile gained for him the place of a commissioner of stamps, with the post of gentleman waiter to Prince George of Denmark, the queen's husband. In 1707, on the death of his first wife, by whom he obtained an estate in Barbadoes worth about seven hundred a-year, he married a second, in the person of Mary Scurluck, of Llangunnor, in Caermarthenshire, who brought him an addition of nearly four hundred pounds to his annual income. He was therefore in circumstances which, with prudence, might have made him not only easy, but dignified. But Steele knew not prudence except by name, and, at the very time when he preached every virtue in the *Spectator*, required sometimes to live in retired country lodgings, in order to escape the importunities of his creditors. It is to be related, however, to his honour, that, on the coming in of the Tory ministry in August 1710, he not only refused to go into the interest of his new superiors, but made a spontaneous offer of the surrender of his offices. Continuing faithful to his Whig creed, he commenced in 1713 a violent political paper named the *Englishman*, and soon after stood candidate for the representation of Stockbridge in Parliament. He gained the desired seat, but soon after, having, in a pamphlet called the *Crisis*, used language which was considered seditious, he was formally expelled from the house. The obnoxious feature of his work was an allegation that the ministry designed to bring in the Pretender; an allegation which he was unable to prove, but which has in our own days been found to be consistent with truth.

On the restoration of his party to power under George I., Steele was placed in a better situation by an appointment to the surveyorship of the royal stables at Hampton Court, and a nomination to the commission of the peace for Middlesex. Having also procured a licence to be chief manager of the royal company of comedians, he had interest to get it exchanged for a patent for life, as governor of that company, which brought him a thousand a-year. In the first Parliament of the new reign, he sat as member for Boroughbridge, and in April 1716 received the honour of knighthood, on presenting an address. He now renewed his exertions for the Whig party, in a series of pamphlets, for which Walpole rewarded him with a grant of five hundred pounds. He was also sent to Scotland, as one of the commissioners upon the forfeited estates, and was received in that country with the greatest kindness and respect. While residing in Edinburgh, being anxious to acquaint himself with the national character in its lower and less restrained forms, he prepared a great feast, to which he caused his servant to invite fifty beggars and decayed tradesmen from the streets. Placing himself at the head of the board, he plied this assembly with whisky punch and wine, till, forgetting their cares, and free from all constraint, they gave loose to every peculiarity of their respective characters, and there ensued a display of rude wit and merriment exceeding all that Steele had ever before witnessed. When the frolic was ended, their eccentric host declared that, besides the pleasure of feeding so many hungry stomachs, he had learned from them humour enough to form a good comedy.

In 1718, Steele became once more a widower. About the same time he lost a considerable sum by an unsuccessful project for supplying the London market with live salmon, brought in walled vessels from the coast of Ireland. In the ensuing year, a conscientious opposition which he made on constitutional principles to the celebrated peerage bill, lost him his offices, and, worse than all, the friendship of Addison, who, in a reply to one of his publications, applied to him the degrading title of *Little Dicky*, whose trade it was to write pamphlets. It is highly creditable to Steele, that, to this unkind cut, he only replied by a quotation from Cato, conveying an indirect reproach. If their friendship was ever re-established, it must have been for a short time, as Addison soon after died. Steele quickly regained his office in connection with the theatre, and having produced another successful and highly moral comedy, entitled the *Conscious Lovers*, was honoured by the king with a present of five hundred pounds. But his life was henceforth one of difficulty and distress, bordering on poverty, and, in 1726, a paralytic stroke forced him into a humble retirement at Hereford, and finally at Llangunnor, where he subsisted for a few years on the remains of his wife's fortune, and died in September 1729.

The character of Sir Richard Steele must have been read in the foregoing details. He was benevolent both in sentiment and practice; in moral intentions he was not only above blame, but entitled to positive approbation. His talents were of a brilliant order, and generally directed towards good purposes. Nor let it be forgotten, in an estimate of his character, that, as recently shown in our paper, he exemplified the domestic affections in a manner for which it would be difficult to find a parallel. But all these good quali-

ties were insufficient to secure happiness, either to himself or those connected with him. His habits of life presented, in their irregularity, a complete contrast to his maxims, and embittered his life with constant self-accusation.

#### PEAT-MOSSES.

Eighteen hundred years ago, most parts of the British islands were covered with forests of trees, natural in their growth, and extensive in their dimensions, much in the same manner as the North American continent now appears clad with timber, of the origin of which no one can give an account. The cause of the dismantling of the British and Irish forests is not very clearly traced in history. It is only known with certainty that the woods were in many places destroyed either by the axe or by fire, by the Roman and other invaders, in order to form their roads through the country, and clear away the places of secure retreat of the unhappy natives. During the reigns of the Saxon and Norman princes, more care was taken to preserve than to destroy the primeval forests; and modern inquirers are therefore very much at a loss to account for the great destruction of growing timber which in the course of time must have taken place.

The most unaccountable circumstance connected with the history of the primeval forests is, that the trees which were felled were not in general removed from the spot where they had flourished. In digging into mosses, there are found lying prostrate, at a considerable depth below the surface, large trees of the fir and oak species, in excellent preservation, while the adjacent stumps from which they had been severed, exhibit the fresh marks of the axe which had levelled them with the earth. In many parts of England, Ireland, and Scotland, traces of these buried forests are observable, frequently on the highest hills, as in Westmoreland; and, what is more remarkable, in the islands of Orkney and Shetland, where forest timber cannot now be made to attain a growth above a few feet in height. It is also worthy of being noted, that the woods which were levelled by the Romans, or by the inhabitants in an after period, were not in every instance what have been erroneously termed primeval forests. Some years ago, in digging a moss in Badenoch in Inverness-shire, in the north of Scotland, layers of slain timber were found at different depths, with roots in a growing position, one above the other; at another place, six or eight different strata of them were discovered similarly placed.\* What an antiquity do these facts demonstrate! A forest grows, lives several centuries, and is either destroyed by violence, or falls from natural decay; a stratum of earthy or mossy matter gathers over it, and becomes the platform of a new widespread race of trees; these in their turn are levelled with the ground, and thereafter buried by natural means; and so on and on through at least six successive generations of timber. The mind is lost in the attempt to account for these wonderful facts: we are carried back to an antiquity beyond the date of either record or tradition.

The wide demolition of these ancient forests had in most instances the effect of producing peat-mosses, which possess some peculiar properties. Had the trees been removed when they fell, these mosses, most likely, would not have been found. The fallen trunks and their roots being left to encumber the ground, a free drainage of the atmospheric and surface waters was obstructed; stagnation ensued; aquatic plants, such as reeds, rushes, and many of a more minute character, naturally sprung up; and thus the rudiments of a moss were begun. Such has generally been the cause of the origin of peat-mosses in the northern countries of Europe. In warm climates, the fallen or decayed timber would shortly have been removed by insects or by putrefaction.

Peat-moss, which consists of a close texture of vegetable fibres, possesses an astringent quality, or principle of tannin, which has the power of preserving substances immersed in it for almost any length of time. With regard to the question whence peat derives its anti-purifying, or, as it is scientifically called, antiseptic property, it has been conjectured by some, that the carbonic and gallic acids which issue from decayed wood, which occurs in the lower parts of many peat-mosses, may account for it. Vegetable gums and resins will also have an effect. The power of tannin to prevent decay is well known, and its presence in almost all trees, but particularly, and in considerable quantities, in the oak, is also well known. Now, as has been already observed, many peat beds occupy the sites of forests, especially those of oak and pine; so that tannin, in these at least, must have been present in great quantities. It may have entered into various combinations; but that it really is to be found in such peat bogs, and to a considerable extent, either in a simple or compound state, appears to us beyond a doubt. We have been informed by Mr Stevens, an experienced land-drainer, that in Sweden, where he has drained an immense quantity of soil, the peat bogs almost invariably occur above prostrate forests, and that the trees for the most part consist of oak.

\* *On pin's Forest Semory*, edited by Sir T. Dick Lauder, vol. 2.

\* Swift had taken the surname from the sign of a London tradesman, and added the "Isaac" under a conviction that he had produced an association which would never be realised in actual life. In this, however, he was mistaken, as in no long time there arose a popular dramatist, who bore both appellations.



Whatever be the cause of the antiseptic power of peat, it is well known to have been the means of preserving not only the trunks of trees, but many interesting animal remains and objects of art. In June 1747, the body of a female was discovered in a peat-moor in the Isle of Axholm, in Lincolnshire. Her feet were furnished with antique sandals, and it has been supposed that she was an ancient Briton. Her nails, hair, and skin, are described as having shown scarcely any symptoms of decay. In Ireland, a human body was dug up which was completely clothed with garments made of hair. The clothing of the inhabitants was manufactured from this material before the introduction of wool; but many ages have elapsed since this took place, so that the body must have lain an immense time, yet it was perfectly fresh and unimpaired. Amongst a number of cases of this description which might be brought forward, we shall quote the following, as particularly interesting:—"At the battle of Solway, in the time of Henry the Eighth (1542), when the Scotch army, commanded by Oliver Sinclair, was routed, an unfortunate troop of horse, driven by their fears, plunged into this morass (the Solway moss), which instantly closed upon them. The tale was traditional, but it is now authenticated, a man and horse in complete armour having been found by peat-diggers in the place where it was always supposed the affair had happened. The skeleton of each was well preserved, and the different parts of the armour easily distinguished."

Besides the human body, there have been found in peat-bogs, bones of the stag, ox, hog, horse, sheep, and other animals that feed on herbs, and in Ireland and the Isle of Man, skeletons of a gigantic elk. There are no remains, however, of animals such as the elephant and rhinoceros, which are only now to be found in warm countries. Upon this, Mr Lyell, one of our most able geologists, remarks, "that they had ceased to live before the atmosphere of this part of the world acquired that cold and humid character which favours the growth of peat." This reasoning appears perfectly conclusive.

Peat, when cut in small blocks, and properly winnowed and dried, forms an excellent kind of fuel, which is extensively in use in those parts of the country where mosses prevail. Little, we believe, has been done in Ireland to reclaim the bogs, but in Scotland, such have been the energetic measures of both landlords and tenants in bringing the soil into cultivation, that most of the peat-mosses have been eradicated or brought into a state of productive tillage. Draining has been the principal means employed for this purpose; and after the superabundant moisture has been withdrawn, the surface has been scarified and burnt: the ashes of the burnt heaps mixed with quick-lime, and the use of the plough, have in a great measure finished the operation. Peat, after being freed from its noxious qualities by filtration, has likewise formed a valuable material in composts for manure. In some instances, wealthy land-proprietors have gone so far as to remove the whole body of the peat from the soil on which it lay incumbent, that they might reach the bottom, and prepare it for the plough. Blair Drummond moss, in Stirlingshire, is an example of this extraordinary enterprise, which was planned by the celebrated Lord Kames. Streams being led from the river Teith to the Forth at a lower level, the peat was cut in masses of a suitable size, thrown into the currents, and so floated off into the Forth, and thence carried by the tides out to sea. In this manner many hundreds of acres of bog were thoroughly eradicated, leaving fields of fertile soil exposed, which are now seen to wave every year with a golden harvest.

Solway moss, which has been already alluded to, made a strange shift in its position in the course of last century. This extensive swamp is situated within the English side of the border, on the banks of the small river Sark, and in that tract of country once known by the name of the Debateable Ground. It consists of sixteen hundred acres, lies some height above the cultivated district, and seems to be a subsidence of peaty mud. It appears that the shell or crust which kept the morass within bounds on the low side, was at first of sufficient strength, but, by the impudence of the peat-diggers, who were constantly working on that side, at length became so weakened as no longer to be capable of resisting the weight pressing on it. To this may be added, that the fluidity of the moss was greatly increased before the catastrophe by three days' incessant rain. Late in the evening of the 17th of November 1771, the farmer who lived nearest the moss was alarmed by an unusual noise. The crust had at once given way; and when he went out with a lantern to discover the cause of fright, he saw the black deluge rolling towards his house. His first impression was, that he saw his own dunghill moving towards him; but speedily ascertaining the real nature of the flood, he hastened to warn his neighbours of their danger. Many received no advertisement of their perilous circumstances till they heard the noise, or saw the dark mass burst into their houses. Some were surprised in their beds, where they passed a horrible night, remaining totally ignorant of their fate, and the cause of the calamity till morning, when their neighbours, with difficulty, got them out through the roof. About three hundred acres of moss were thus discharged, and above four hundred acres of land covered. The houses were either overthrown or filled to the roofs, and all the hedges buried beneath the flood. Fortunately no human lives were lost, but several

cattle were suffocated; and those which were housed had great difficulty in escaping. The case of a cow is so singular as to deserve particular notice. She was the only one out of eight in the same cow-house that was saved, after having stood sixty hours up to the neck in mud and water. When she was relieved, she did not refuse to eat, but would not taste water; nor would she ever look at that element without showing manifest signs of horror! The eruption had burst from the place of its discharge like a cataract of thick ink, and continued in a stream of the same appearance, intermixed with great fragments of peat, with their heathy surface; then flowed like a tide charged with pieces of wreck, filling the whole of the cultivated valley, and leaving upon the shore of the Solway Firth huge masses of turf, memorials of its progress into the sea and the river.

A phenomenon similar to this extraordinary outbreak, took place in Ireland in 1835, and was attended with results fully more disastrous. A peat moss, called the Sluggan Bog, near Ballymena, measuring fifteen hundred acres, being the largest in the county of Antrim, and the property of Lord O'Neill, suddenly broke up with a noise resembling that of thunder, on the evening of the 19th of September, striking the inhabitants with panic, and causing animals to fly in all directions. "A person who was near the ground (say the newspapers of the period) was surprised to hear a sort of rumbling noise, as if under the earth; and immediately after, his surprise was not a little increased on perceiving a part of the bog move, pretty rapidly forward, a distance of a few perches. It then halted, and exhibited a broken rugged appearance, with a soft peaty substance boiling up through the chinks. It remained in this state till the 22d, when it suddenly moved forward at a quick rate, covering corn-fields, potato-fields, turf-stacks, hay in ricks, &c.; not a vestige of which now remains to be seen. So sudden and rapid was this movement, that the adjacent mail-coach road was covered in a few minutes, or rather moments, to a depth of nearly twenty feet. It then directed its course towards the river Maine, which lay below it; and so great was its force, and such the quantity of matter carried along, that the moving mass was forced a considerable way across the river. In consequence of the late heavy rains, the river has again found its channel through the matter deposited in its bed; otherwise the water would have been forced back, and immense damage done to the land on the banks. The fish in the river have been killed for a considerable distance. The damage done by the mossy inundation has been very considerable. About one hundred and fifty acres of excellent arable land have been covered, and rendered totally useless. Down the middle of the projected matter, a channel has been formed, through which there is a continual flow of a dark peaty substance over ground where, only two weeks ago, the reapers were at work; and a house close by the road is so far overwhelmed, that only a part of the roof is to be seen."

#### BEER-DRINKERS.

THE following paragraph lately appeared in a London newspaper:—"It is a fact, well known to medical men of experience in the metropolis, that a confirmed beer-drinker in London can scarcely scratch his finger without risking his life. It is for the public safety to have it known, that, whether from some peculiarity of the London climate, or of the London beer, a copious London beer-drinker is all one vital part. He wears his heart upon his sleeve, bare to a death-wound, even from a rusty nail or the claw of a cat. We remember to have heard or read, we cannot positively say which, in a lecture of Sir Astley Cooper, that the worst patients brought into the metropolitan hospitals are those apparently fine models of health, strength, and soundness—the London draymen. When one of these receives a serious injury, we think Sir Astley said, it was always necessary to amputate, if you would give the patient the most distant chance of life. The draymen, it is well known, have the unlimited privilege of the brewer's cellar, and of course exercise that privilege with boundless liberality. In the lecture to which we have referred, Sir Astley illustrated the effect of such indulgence upon the constitution, by an incident that had, a short time before, occurred to him in his practice. He had been called to attend a drayman, a powerful, fresh-coloured, healthy-looking man, who had suffered an injury in his finger from a small splinter of a stave. Suppuration had taken place in the wound, which appeared but a trifling one, and Sir Astley, of course, opened the small abscess with his lancet. Upon retiring, the justly distinguished surgeon found that he had forgotten his lancet-case, returned to recover it, and saw his patient in a dying state; and dead the patient was in a few minutes, or, at most, in a few hours, we cannot accurately remember which. But the impression upon Sir Astley's mind, and that which he evidently intended to impress upon the minds of his pupils, was, that in London, at least, the most trifling surgical operation can scarcely be resorted to in the case of draymen and other beer-drinkers, without considerable hazard of losing the patient. Of course, where a surgical operation is dangerous, the injury calling for it must be more dangerous still; so that every medical man in London above all things dreads a beer-drinker for his patient in a surgical case." Since this paragraph appeared, we have made some inquiries on the subject, and find

that the facts are precisely as stated. It seems that those who indulge in copious libations of beer—drinking, for instance, two or three pots, that is quarts, of porter, a-day—do not eat solid food in proportion. They therefore become blown up with a preternatural enlargement of muscle, accompanied with fat; their blood is also in a state exceedingly liable to inflammation; and, therefore, like plants which draw their nourishment from water alone, the smallest injury disturbs the system, and destroys vitality. Some forty years ago, there flourished a London drayman of huge proportions, a regular beer-bibber, known by the name of Big Ben. Ben was reckoned one of the strongest men within the bills of mortality, and he occasionally was seen showing off as second in those prize boxing-matches which used to delight our moral and intelligent ancestors. When stripped of his upper garments, and engaged in the attitudes of this brutalising sport, seldom or never had there been exhibited a frame so robust, or one which promised better to endure the shocks which might assail it. "There stands," you would have said, "an invulnerable giant—Death will certainly find it no easy matter to level him." Yet, for all this apparent hearty strength, Ben was brought down by an injury which would not have scathed a child. One day, his hand received a slight graze from the wheel of a passing carriage on the crowded street—the skin was only ruffled. Ben wiped away the starting blood, and thought no more of the matter: in one week thereafter, Big Ben was in his grave. The fate of this man and others of his class is not without a moral. By the constant imbibing of liquors, strength and bulk may be attained, but it is with the fatal assurance that neither will conduce to long life or permanent good health. Whether a man be strong or not, it is of the greatest importance that he live in such a temperate manner that the principle of healing inherent in the system may be at liberty to act vigorously in case of any personal injury or distemper. If he live intemperately, this principle becomes so much weakened, if not altogether destroyed, that, when disease arrives, not all the power of medicine or art can save him.

#### SIMULATION.

Is it that our religious principles want strength, or that the real passion for what is good and worthy will not carry us high enough? Alas, we want not to be, but to seem. Look out of your door—take notice of that man; see what disquieting, intriguing, and shifting, he is content to go through, merely to be thought a man of plain dealing;—three grains of honesty would save him all this trouble—alas, he has them not. Observe another going almost in the same track; with what an inflexible sanctity of deportment he sustains himself as he advances! Every line in his face writes abstinence. Every stride looks like a check upon his desires. See, I beseech you, how he is clothed up—bemuffled with the externals of religion, that he has not a hand to spare for a worldly purpose. He has armour at least—Why does he put it on? Is there no serving God without all this? Must the garb of religion be extended so wide to the danger of its rendering? Yes, truly, or it will not hide the secret.—And what is that? That he has no religion at all.

But here comes GENEROSITY; giving, not to the decayed artist, but to the arts and sciences themselves—building schools and colleges for those who come after. How they will magnify his name! 'Tis in capitals already; the first, the highest, in the gilded rent-roll of every hospital and asylum. One honest tear shed in private over the unfortunate is worth it all.

What a problematic set of creatures does simulation make us! Who would divine that all the anxiety and concern so visible in the airs of one-half of that great assembly should arise from nothing else, but that the other half of it may think them to be men of consequence, penetration, parts, and conduct? What a noise among the claimants about it! Behold humility, out of mere pride—honesty, almost out of knavery; chastity, never once in harm's way; and courage, like a Spanish soldier upon an Italian stage—a bladder full of wind.

Hark! heard ye the sound of that trumpet—let not the soldier run—'tis some good Christian giving alms. O PITY, thou gentlest of human passions! soft and tender are thy notes, and ill accord they with so loud an instrument.—*Sterne's Sermons.*

#### THE MAELSTROM WHIRLPOOL.

THE following account of this celebrated whirlpool, on the coast of Norway, was communicated in a letter from Captain Doane, in 1825, to the late Hon. A. B. Woodward, Judge of Middle Florida, and has been found among many other curious papers he left on file:—"This surprising phenomenon, which has excited the wonder and astonishment of the world, I have seen. There are few of my countrymen who have had the opportunity, in consequence of the situation of it being remote from any port of commerce. Its latitude and longitude I do not exactly recollect. It is situated between two islands, belonging to a group, off the coast of Norway, called the Lovins' Islands, between Drontheim (being the most northern port of commerce) and the North Cape. I suppose the latitude to be about 69° north, but will not be certain. I had occasion, some years since, to navigate a ship from the North Cape to Drontheim, nearly all the way between the islands or rocks and the main. On inquiring of

my Norway pilot about the practicability of running near the whirlpool, he told me that with a good breeze it could be approached near enough for examination without danger. I at once determined to satisfy myself. We began to hear it about ten in the morning, in the month of September, with a fine trading wind at north-west. Two good seamen were placed at the helm, the mate on the quarter-deck, and all hands at their stations working the ship, and the pilot standing on the bowsprit, between the night-heads. I went on the maintop-sail yard, with a good glass. I had been seated but a few moments when my ship entered the dish of the whirlpool. The velocity of the water altered her course three points towards the centre, although she was going eight knots through the water. This alarmed me extremely: for a moment I thought that destruction was inevitable. She, however, answered her helm sweetly, and we ran along the edge, the waves foaming round us in every form, while she was dancing gaily over them. The sensations I experienced are difficult to describe. Imagine to yourself an immense circle running round, of a diameter of one mile and a half, the velocity increasing as it approximated the centre, and gradually changing its dark blue colour to white, foaming, tumbling, and rushing to its vortex, very much concave, as much so as the water in a tunnel when half run out. The noise, too, hissing, roaring, and dashing, all pressing on the mind at once, presented the most awful, grand, and solemn sight I ever experienced. We were near it about eighteen minutes, and in sight of it two hours. It is evidently a subterranean passage, that leads it is impossible to say where. From its magnitude, I should not doubt that instant destruction would be the fate of a dozen of our largest ships, were they drawn in at the same moment. The pilot says that several vessels have been sucked down, and that whales have also been destroyed. The first I think probable enough, but I rather doubt the latter. I have thus, sir, given you a lame, but a true account."

**CUNNING OF THE SPIDER.**—A degree of the marvellous has characterised the stories of the sagacity of this animal that we do not attempt to reach: a simple exhibition of it, however, fell under our observation some two or three days since, which we will relate:—A spider, of moderate size, had fortified himself within a very formidable web in a corner of our office, where he was suffered to remain, for no other reason than his predilection for musquitos. His taste for variety, however, was very soon developed. We observed him, a morning or two since, making very rapid preparations to attack an enormous beetle, whose peregrinations had extended into his neighbourhood. The web was made fast to two of his legs at the first onset. Mr Beetle, apparently not altogether satisfied with this "fraternal hug," bade him good morning, and marched off, carrying his chains with him, in doing which he had well nigh demolished the fortress itself. In a few moments, however, the beetle repeated his visit. In the meantime, the spider had repaired damages, and was prepared for the reception of the formidable stranger. The web was about eighteen inches from the floor; the spider precipitated himself from it, but stopped suddenly when within about two inches of the floor. As this feat was again and again repeated, we have no doubt that it was an experiment to try the strength of his cord. At length he threw himself upon the back of the beetle, attached the web to the posterior extremities, and then retreated. Mr Beetle's suspicions of the purity of the intentions of his long-legged host were now confirmed, and, apparently, with no small degree of displeasure, he turned his back upon the spider, the frailty of whose web, notwithstanding his precaution, not interfering in the slightest degree with the dignity of Sir Beetle's measured tread. The spider, convinced that open attack was altogether unavailable, resorted to stratagem. With rather an eccentric manoeuvre, he fastened the attention of Mr Beetle upon himself, and then commenced a retreat up the surface of a somewhat rough wall. Whether Mr Beetle mistook this trick of the spider for politeness, under the impression that he was conducting him to his castle, or whether it was a matter of sheer curiosity that induced him to follow his betrayer, we are not able to decide; it is sufficient that the decoy was successful. Mr Spider was vastly civil to Sir Beetle; court language was used on the occasion, without doubt, until they reached a point directly over the web, when, like another Roderick Dhu, he threw off his disguise, and, in a trice, mounted upon the back of Sir Beetle, disengaged his feet from the wall, and they tumbled together into the web. With the rough legs of the beetle, and being unable to obtain foothold, extrication was impossible, escape hopeless; he surrendered at discretion, and, on the following evening, was found dead in his chains.—*From the Natchez Galaxy, an American paper.*

**A MODERN DIOGENES.**—Napoleon, when in the height of his power, being one day at Amiens, whilst traversing the square in the midst of the acclamations of the inhabitants who had assembled around him, cast his eyes upon the multitude, and perceived in one of the corners of the square a stone-cutter, who had not been induced to quit his work, by the curiosity which animated the crowd by which he was surrounded. The indifference of this man excited the curiosity of Napoleon: he wished to know something about him; and, passing through the crowd, urged on his horse

until he arrived close to him. "What are you doing there?" said Napoleon. The workman raised his eyes, and recognised the emperor. "I am cutting stone." "You have served under me?" quickly observed the emperor, who recognised an old soldier. "It is true, sire." "You were present in the campaign of Egypt; you were a brigadier in such a corps?" "Yes, sire." "Why have you quitted the service?" "Because I had completed my time, and obtained my discharge." "I am sorry for it: you were a brave man; I shall be happy to do for you any thing in my power. Say what do you require from me?" "That your majesty will leave me to cut my stone in quiet; my work suffices me; I am in want of nothing." This trait brings to mind the interview of Diogenes with Alexander; but the modest pride of the Greek philosopher was not equal to the reply of the stone-cutter.—*Paris paper.*—[We cannot believe that the circumstance here narrated ever occurred: in all likelihood it is an exaggeration of the truth, or was got up, for the sake of effect, and to serve national vanity.]

**NOTIONS OF A FINE LADY IN CANADA.**—I was once much amused with hearing the remarks made by a very fine lady, the reluctant sharer of her husband's emigration, on seeing the son of a naval officer of some rank in the service busily employed in making an axe-handle out of a piece of rock-elm. "I wonder that you allow George to degrade himself so," she said, addressing his father. The captain looked up with surprise. "Degrade himself! In what manner, madam? My boy neither swears, drinks whisky, steals, nor tells lies." "But you allow him to perform tasks of the most menial kind. What is he now better than a hedge-carpenter; and I suppose you allow him to chop too?" "Most assuredly I do: that pile of logs in the cart there was all cut by him after he had left study yesterday," was the reply. "I would see my boys dead before they should use an axe like common labourers." "Idleness is the root of all evil," said the captain. "How much worse might my son be employed if he were running wild about streets with bad companions!" "You will allow this is not a country for gentlemen or ladies to live in?" said the lady. "It is the country for gentlemen that will not work, and cannot live without, to starve in," replied the captain bluntly; "and for that reason I make my boys early accustom themselves to be usefully and actively employed." "My boys shall never work like common mechanics," said the lady, indignantly. "Then, madam, they will be good for nothing as settlers, and it is a pity you dragged them across the Atlantic." "We were forced to come. We could not live as we had been used to do at home, or I never would have come to this horrid country." "Having come hither, you would be wise to conform to circumstances. Canada is not the place for idle folks to retrench a lost fortune in. In some parts of the country you will find most articles of provision as dear as in London, clothing much dearer, and not so good, and a bad market to choose in." "I should like to know, then, who Canada is good for?" said she, angrily. "It is a good country for the honest, industrious artisan. It is a fine country for the poor labourer, who, after a few years of hard toil, can sit down in his own log-house, and look abroad on his own land, and see his children well settled in life as independent freeholders. It is a grand country for the rich speculator who can afford to lay out a large sum in purchasing land in eligible situations; for if he have any judgment, he will make a hundred per cent. as interest for his money, after waiting a few years. But it is a hard country for the poor gentleman, whose habits have rendered him unfit for manual labour. He brings with him a mind unfitted to his situation; and even if necessity compels him to exertion, his labour is of little value. He has a hard struggle to live. The certain expenses of wages and living are great, and he is obliged to endure many privations if he would keep within compass, and be free of debt. If he have a large family, and bring them up wisely, so as to adapt themselves early to a settler's life, why, he does well for them, and soon feels the benefit on his own land; but if he is idle himself, his wife extravagant and discontented, and the children taught to despise labour, why, madam, they will soon be brought down to ruin. In short, the country is a good country for those to whom it is adapted; but if people will not conform to the doctrine of necessity and expediency, they have no business in it. It is plain Canada is not adapted to every class of people." "It was never adapted for me or my family," said the lady, disdainfully. "Very true," was the laconic reply, and so ended the dialogue.—*Backwoods of Canada.*

**THE BEAUTY OF WOMAN.**—Is there not a beauty and a charm in that venerable and venerated woman who sits in the "majesty of age," beside the fireside of her son; she who nursed him in infancy, tended him in youth, counselled him in manhood, and who now dwells as the tutelary goddess of his household? What a host of blessed memories are linked with that mother, even in her "reverence and chair days!" what a multitude of sanctifying associations surround her, and make her lovely, even on the verge of the grave! Is there not a beauty and a charm in that matronly woman who is looking fondly on the child in her lap? Is there not a holy influence around her, and does not the observer at once pronounce her lovely? What although the line and lineament of youth are fled, time has given far more than he has taken away. And is

there not a beauty and a charm in that fair girl who is kneeling before that matron—her own womanly sympathies just opening into active life, as she folds the playful infant to her bosom? All are beautiful—the opening blossom, the mature flower, and the ripened fruit; and the callous heart, and the sensual mind, that gropes for loveliness as a stimulant for passion, only shows that it has no correct sense of beauty.—*Constitutional Magazine.*

**THE PLEASURES OF BOTANY.**—The humblest flower that grows is really a wonder of the creation. Whether we view it simply as a temporary part of the vegetable whose use is the reproduction of the species proceeding from the plant but to form a new race of vegetables, or whether we look at it as one of those beautiful creations of a bountiful Providence, who, not content with ministering to our substantial necessities, "hath made all nature beauty to the eye," still, in either sense, these gem-spots of nature form a delightful subject for the study of a contemplative mind. But how much is this pleasure enhanced, if we call in the aids of science to assist us in examining the more obvious beauties of the vegetable kingdom! It will then be seen that every part of a flower, from the gaudy-painted and expanded corolla, to the hair-like filament which serves for its fecundation, have all their obvious and essential functions to perform. What can be more delightful than to walk with our Creator in the kingdom of his works? The more we study them, the more we must admire their perfect adaptation to the truly godlike end of universal good. Indeed, there is not a season that will not afford an abundant harvest of practical knowledge to the inquiring mind. In this respect, the lovely blossoms of spring are as interesting as the more matured beauties of summer; and we may commune as sweetly with the early snowdrop, when its flowers are bedecked with the frosts of winter, as when the eye rests on the richly tinted foliage of the autumnal months.—*Partington's Introduction to Botany.*

**THE EFFECTS OF PLEASURE.**—Every one has felt, after a course of amusement, how little they are inclined to drop again into the dull current of common life: a fever is on them; they are weary—it may be of excitement; yet they would toil on and pursue the phantom pleasure, wherever it may lead, rather than pause, rather than look at the past hours steadily, or allow themselves to make an estimate of their real value. The least bad part of dissipation is its actual idleness: its deadly quality is the apathy which it sheds over all the sober enjoyments of existence.—*The Devoted, a Novel.*

**RAILWAYS DO NOT DIMINISH THE NUMBER OF HORSES.**—It is a fact not generally known that the number of horses employed to work a coach from London to Manchester is nearly 200, and that, on an average, these horses annually consume the produce of 700 acres of land. A contemporary, after noticing this fact, asks, "should railways, at some future period, supersede stage-coaches entirely, what is to become of this produce?" Now, in the first railway "experiment," on a large scale, as it then might be called, the Liverpool and Manchester railway, much outcry was made as to the loss it would cause, not only to the coach and horse proprietors, but to the agriculturist, as it was calculated there would be no more work for fourteen coaches on that line of road, requiring each for one journey twelve horses, and that consequently the produce of as many acres of land as these horses had consumed, would have no consumers. What is the fact? That the horses now required in connection with the railway for drawing omnibuses, waggons, &c. exceed all the coaches between Liverpool and Manchester.—*Newspaper paragraph.*

**CHANGING SEATS.**—The following problem may be found in many of our elementary books of arithmetic:—A club of eight persons agreed to dine together, every day, as long as they could sit down to table differently arranged. How many dinners would be necessary to complete such an arrangement?—*Answer.* By the well-known rule of permutation, it will be found that the whole party must live 110 years and 170 days, and must eat 362,880 dinners. So rapidly does the sum roll up on this process, that, if the party had consisted of one more person, they would have had 443,520 dinners to get through; and if ten persons were to enter into the compact, it would be necessary for them, in order to complete their task, to live long enough to devour 3,628,800 dinners.—*The same.*

**CUSTOM IN DERBYSHIRE.**—The ancient custom of hanging a garland of white roses, made of writing paper, and a pair of white gloves, over the pew of the unmarried villagers who die in the flower of their age, prevails to this day in the village of Eyam, and in most other villages and little towns in the Peak of Derbyshire.—*The same.*

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